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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,509	01/23/2002	Chin-Ming Chang	X-10911A	9159

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EXAMINER	
GUPTA, ANISH	
ART UNIT	**PAPER NUMBER**
1654	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/055,509	CHANG ET AL.	
	Examiner	Art Unit	
	Anish Gupta	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 26-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 26-35 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1-23-02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The preliminary amendment, filed 1/23/02, has been considered and entered. Claims 1-25 were canceled and claims 26-35 were added by the amendment. Claims 26-35 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 26-30 and 32, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Platz et al. (US 6582728).

The claims are drawn to a composition comprising PTH.

The reference teaches bulk 34 amino acid active fragment of parathyroid hormone, PTH (1-34), was obtained from BACHEM CALIFORNIA, Torrance, Calif. A 5.0% PTH (1-34) formulation was achieved by combining 0.375 mg PTH (1-34) per 1.0 mL deionized water with 6.06 mg/mL mannitol USP and 1.04 mg/mL citrate buffer (sodium citrate dehydrate USP and citric acid monohydrate SP) for a total solids concentration of 7.48 mg/mL at pH 6.3. (see col. 13, lines 45-55).

The limitation "said formulation being suitable for human pharmaceutical use without being freeze dried" is intended use. Intended use limitation and intended use or field of use for the invention generally will not limit the scope of a claim. Moreover, where the claimed and prior art products are identical or substantially identical in structure or composition, a prima facie case of

either anticipation or obviousness has been established. In re Best, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, *supra.*

Further, even if such language is not considered as an intended use limitation, the reference still anticipates the claimed invention. As indicated above, the reference teaches formulations that are stored in vials as liquid formulation prior to lyophilization. The lyophilization is conducted for a stable storage preparation (see col. 4, lines 9-19). However, if the solution is needed immediately, the solution does not need to be lyophilized. Note that the reference teach solution formulation, prior to lyophilization, of PTH having a concentration of 100 μg (see col. 6, lines 30) and the unit dosage recited by the reference of PTH is between 50-150 μg (see col. 4, lines 55-57). Accordingly, the formulation prior to lyophilization is a ready to use formulation. Thus, all of the elements of the claimed invention are met by the reference. Namely, the reference teaches a solution formation, in vials, containing PTH, mannitol, and a citrate buffer and the pH of the formulation between 4-6.

3. Claims 26-31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Holthuis et al. (US 5496801).

The claims are drawn to a composition comprising PTH.

The reference teaches an aqueous formulation using that comprises mannitol blended with aqueous citric acid having a pH of between 4-6 (see col. 6, lines 11-22). To this composition was

added PTH (1-84) to create a stock solution to be placed in 1.5mL vials (see col. 6, lines 23-30). The reference also states that the PTH analogs used can be PTH (1-34), PTH (1-37), and PTH (1-41) (see col. 3, lines 13-15).

The limitation "said formulation being suitable for human pharmaceutical use without being freeze dried" is intended use. Intended use limitation and intended use or field of use for the invention generally will not limit the scope of a claim. Moreover, where the claimed and prior art products are identical or substantially identical in structure or composition, a prima facie case of either anticipation or obviousness has been established. In re Best, 195 USPQ 430, 433 (CCPA 1977). □ When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, *supra.*

Further, even if such language is not considered as an intended use limitation, the reference still anticipates the claimed invention. As indicated above, the reference teaches formulations that are stored in vials as liquid formulation prior to lyophilization. The lyophilization is conducted for a stable storage preparation (see col. 4, lines 9-19). However, if the solution is needed immediately, the solution does not need to be lyophilized. Note that the reference teach solution formulation, prior to lyophilization, of PTH having a concentration of 100 μg (see col. 6, lines 30) and the unit dosage recited by the reference of PTH is between 50-150 μg (see col. 4, lines 55-57). Accordingly, the formulation prior to lyophilization is a ready to use formulation. Thus, all of the elements of the claimed invention are met by the reference. Namely, the reference teaches a solution

formation, in vials, containing PTH, mannitol, and a citrate buffer and the pH of the formulation between 4-6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holthuis et al. (US 5496801) in view of Martin et al.

The claims are drawn to a PTH formulation comprising PTH, a buffereing agent, a stabilizing agent, and a preservative.

The reference of Holthuis has been discussed supra. Note that Holthuis et al. also suggest the use of PTH variants such as PTH(1-34), PTH (1-38) and PTH (1-4) which are homologs of the full length PTH. Therefore it would have been obvious to use a PTH variant in the formulation.

The difference between the prior art and the instant application is that the reference does not teach the use of benzyl alcohol in the composition.

However, Martin et al. illustrates that when benzyl alcohol was used in a PTH formulation (PTH 1-34), PTH binding to the PTH-receptor was increased by 25% in the presence of the alcohol without changing the binding affinity to the receptor (see abstract and E34). Therefore it would have been obvious to one of ordinary skill in the art to incorporate benzyl alcohol into a formulation of PTH because the benzyl alcohol will increase the binding to the PTH-receptor by 25% in the presence of the alcohol without changing the binding affinity to the receptor.

5. Claims 26-30, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Platz et al. (US 6582728) in view of Martin et al.

The claims are drawn to a composition comprising PTH.

Platz et al. teaches bulk 34 amino acid active fragment of parathyroid hormone, PTH (1-34), was obtained from BACHEM CALIFORNIA, Torrance, Calif. A 5.0% PTH (1-34) formulation was achieved by combining 0.375 mg PTH (1-34) per 1.0 mL deionized water with 6.06 mg/mL mannitol USP and 1.04 mg/mL citrate buffer (sodium citrate dehydrate USP and citric acid monohydrate SP) for a total solids concentration of 7.48 mg/mL at pH 6.3. (see col. 13, lines 45-55). The difference between the prior art and the instant application is that the reference does not teach the use of benzyl alcohol in the composition.

However, Martin et al. illustrates that when benzyl alcohol was used in a PTH formulation (PTH 1-34), PTH binding to the PTH-receptor was increased by 25% in the presence of the alcohol without changing the binding affinity to the receptor (see abstract and E34). Therefore it would have been obvious to one of ordinary skill in the art to incorporate benzyl alcohol into a formulation

of PTH because the benzyl alcohol will increase the binding to the PTH-receptor by 25% in the presence of the alcohol without changing the binding affinity to the receptor.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

6. Claims 26-35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,770,623. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

The claims are drawn to a PTH formulation comprising PTH, a buffering agent, a stabilizing agent, and a preservative.

The Co-pending application claims a PTH formulation, in unit dosage form, that is a solution stored in vials (see claim 1). The co-pending application claims the same agents such as mannitol and a preservative, the same pH range, and the same buffer solution as the instant application. Thus, the claimed invention in the co-pending application are sufficiently overlapping to render the claimed invention obvious over one another. That is to say, one would necessarily have to come across the claimed composition prior to practicing the claimed invention in the co-pending application, i.e placing the solution into vials.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Gupta whose telephone number is (571)272-0965. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell, can normally be reached on (571) 272-0974. The fax phone number of this group is (571)-273-8300.

4/16/04

Anish Gupta
Patent Examiner